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COMMITTEE ON HEALTH, EDUCATION, LABOR AND PENSIONS
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Hearing on

HEALTH TRACKING: IMPROVING SURVEILLANCE OF CHRONIC CONDITIONS AND POTENTIAL LINKS TO ENVIRONMENTAL EXPOSURES

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Representing

THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS

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Mr. Chairman and members of the subcommittee, I am Dr. Ed Thompson, the State Health Officer for Mississippi and a past president of the Association of State and Territorial Health Officials—ASTHO. I am here today representing ASTHO, whose members are the chief health officials in the states and territories they serve. ASTHO is dedicated to formulating sound national public health policies and to assuring excellence in state-based public health practice.

We appreciate this invitation to share our views on the opportunities and challenges a chronic disease and environmental health tracking system affords state public health agencies.

ASTHO supports initiatives that work to uncover and address the causes of disease. Disease arises from a complex interplay of infectious, behavioral, environmental, genetic, occupational, and medical factors. A system that can provide insight into the possible linkages between environmental factors and disease will enhance states' ability to protect the public's health. Although most states have separate health and environment agencies, public health agencies have an assurance function to see that the public's health is protected and improved.

Let me begin with the two specific areas the Committee has asked me two address.

Dealing with concerns, sometimes from health care providers, but more often from ordinary citizens, about possible exposures to some environmental contaminant or about apparent "spikes" in disease occurrence in a region or town in our states is an almost daily part of public health practice. "Cancer clusters" are perhaps the most common example. In one year, 1996, a survey by the Council of state and Territorial Epidemiologists (CSTE) found 1,900 cancer inquires in 41 states. In about 90 per cent of "cancer clusters" investigation reveals no increased cancer occurrence. The perceived cluster instead reflects a heightened awareness of the normally occurring illness that has

been there all along. In many of the remainder, there is in fact an increase above the expected occurrence level of one or more types of cancer, but the increase reflects only chance in the random distribution of cancer within a population. In only a tiny minority of cluster investigations is a real increase found and an identifiable cause pinpointed, but it is this small group that we cannot afford to miss.

One of the most difficult aspects investigating a cancer cluster, or a "cluster" of birth defects, or an apparent upsurge in asthma cases, is determining what the "usual" or expected occurrence of the disease or condition is. Chronic disease tracking - we call it surveillance – can provide the baseline data we need to determine what is expected or "normal", so we will be able to recognize what is not. Cancer registries, now operational in many states, and birth defect registries, as will be discussed by my colleagues on this panel, can be a valuable source of such data.

You also asked for state experiences where more data and federal support, and coordination of data collection and disease response would have been useful. Let me instead give an example of a situation where that support and coordination was needed and was there.

Late in 1996 what was later learned to be the largest indoor pesticide contamination incident ever seen in this country was identified in seven states: Mississippi, Louisiana, Arkansas, Texas, Tennessee, Alabama, and Illinois, with Mississippi as its epicenter. More of the roughly 2500 affected homes were in Mississippi than any other state. Methyl parathion, an agricultural pesticide, had been used – illegally – indoors to kill insects.

But the story begins over a decade earlier, when as a young state epidemiologist, with more hair and fewer wrinkles, I stood in a Mississippi Delta tenant shack where two children had been fatally poisoned with methyl parathion brought indoors to kill pests. I will never forget the scene there in that dilapidated house, with no screens on the windows and huge cracks between the boards, where not a single insect flew or crawled. In the backyard, abandoned, sat a garbage pail of food, contaminated by the spraying, rotting in the heat of the Mississippi summer, untouched by flies or the hog rooting nearby.

When we were confronted with the 1996 contamination, we knew what methyl parathion indoors could do; we'd seen it before.

A massive state/federal effort was mounted. Initially, every house with methyl parathion levels above those thought to be safe was evacuated and decontaminated. Families were relocated for weeks or months at a time, and millions of federal dollars were spent on decontamination. Then, working with state public health workers collecting urine sample, CDC's Center for Environmental Health began using a new technique to measure evidence of methyl parathion exposure in urine samples. Now, able to determine who was actually absorbing methyl parathion and who was not, we were able to let many families remain safely in their homes, with ongoing biomonitoring, and reduced the

number of homes requiring full-scale decontamination. The result was a savings of roughly fifty million taxpayer dollars and avoiding enormous disruption of peoples' lives.

Such support from federal agencies must continue to be available, because whether in responding to circumscribed incidents or conduction long-term tracking and monitoring, addressing chronic disease and environmental risk issues is necessarily done as a federal-state partnership.

At the foundation of any public health activity, such as a health tracking system, are core public health capacities. As our surveillance system evolves, it will entail building up state-based epidemiology and laboratory capacity. States must have adequate trained chronic disease and environmental epidemiologists to carry out surveillance. State public health laboratories also need additional trained personnel and, critically, the capacity to conduct biomonitoring in each state.

Now let me offer some general observations about surveillance of chronic diseases and environmental exposures.

The task of integrating health outcome data, with data on environmental exposures and environmental hazards is a tremendous undertaking. In October 2001, California became the first state to pass environmental health tracking legislation. In the legislation, the California Department of Health Services is required to establish a working group with environment agencies by July 2002 and the group must develop by July 2003 options for implementing an Environmental Health Surveillance System. The timeframe California has allotted to the planning process alone demonstrates the complexity of this undertaking.

I'd like to single out several existing resources upon which we should draw as we develop this system. The first is biomonitoring capacity at CDC's Center for Environmental Health. As illustrated by the example of methyl parathion, this technology is of immense value in evaluating environmental toxin exposure and risk. By the end of 2002 CDC will be able to test human tissue samples for over 150 compounds; this needs to be expanded and built upon.

The second is the National Health and Nutrition Examination Survey (NHANES). The information we get now from this valuable survey gives us hard data based, in large part, on actual examination and laboratory specimens, instead of the more usual self-reported data about illness. As valuable as the NHANES information is, it tells us only about the nation as a whole, and about selected ethnic groups. Expanding the size of the NHANES to allow at least regional stratification would provide a powerful tool for exploring the prevalence of chronic diseases and gauging environmental toxin exposure.

Two other resources are ASTHO's affiliate organizations, the Council of State and Territorial Epidemiologists, or CSTE, and the Association of Public Health Laboratories, or APHL. These are our nation's on-the-ground experts in disease tracking and public health laboratory services. To have a successful chronic disease surveillance system, the

expertise and counsel of these two groups is indispensable. More than just resources, CSTE and APHL are absolutely essential components of any approach to developing a system for such monitoring chronic disease and environmental risk.

An obvious resource we must not overlook is our existing system of surveillance that tracks acute infectious disease. Although monitoring chronic diseases and environmental risks present some unique challenges, the knowledge, experience, and technology from decades of infectious disease surveillance can be part of the foundation of a chronic disease surveillance system. In particular, we should draw on our existing National Electronic Disease Surveillance System, NEDSS. Integration with, or at least compatibility with, NEDSS should be a major consideration.

Our existing surveillance system for communicable diseases is truly a nationwide system, but it is in fact a system of systems; a coordinated system of individual state surveillance data collection with subsequent aggregation at the national level. Whatever form our chronic disease surveillance system takes, this basic model should be followed.

Finally, the fundamental infrastructure of public health in state and local public health agencies is not buildings, not computers, not even labs: it's people—well-trained public health professionals in a wide variety of disciplines. It is not sufficient merely to gather data on chronic disease and toxin exposure. We have to have adequate numbers of trained state and local public health staff to analyze data, to communicate findings to the public, to work with the public and lawmakers to find solutions to address the problems, and to evaluate systems so we can improve the outcomes in the future.

ASTHO and the states look forward to working with the Congress, public health and environmental agencies, and the public to continue this important work.

We greatly appreciate the committee's keen interest in public health issues. Thank you very much for the opportunity to present ASTHO's views on environmental health tracking and I would be pleased to answer your questions.